



Light-Up EL Wire Costume

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TOOLS:

- [Dressform \(1\)](#)
- [Fabric chalk \(1\)](#)
- [Needle \(1\)](#)
- [Paper \(1\)](#)
- [Pencil or pen \(1\)](#)
- [Pins \(1\)](#)
- [Rope \(1\)](#)
- [Scissors \(1\)](#)
- [Tape \(1\)](#)
something strong enough to stick to fabric
- [Thread \(1\)](#)

PARTS:

- [EL wire \(1\)](#)
for body; length varies depending on design
- [EL wire \(1\)](#)
for gloves; length varies depending on design
- [Jumpsuit \(1\)](#)
- [Carpenter kneepads \(1\)](#)
- [Helmet \(1\)](#)
- [Stretch fabric \(1\)](#)
- [Headphones \(1\)](#)
- [Gloves \(1\)](#)
- [Matte black tape \(1\)](#)
- [Battery pack \(2\)](#)

SUMMARY

Here's how to design and sew a cool EL wire costume.

Step 1 — Light-Up EL Wire Costume



- Since this was my first foray into the world of EL wire, I had no supplies in stock, and no idea what exactly I would need. I did extensive research to determine the most cost-effective way to achieve the design, and decided to go with <http://thatscoolwire.com>, whose products are both affordable and well-reviewed.
- After securing a supplier, determine just what type and how much EL wire you'll need. I went with 4.0mm EL wire for the main body and 2.2mm EL wire for the glove details, both in the color "Power Green." You'll find that different suppliers stock different weights and colors of EL wire, so choose the weight and color you like best.
- Sketch your design on paper, and then lay it out on the dressform using rope and pins.

Step 2



- To get a more accurate idea of what supplies you need, apply the layout you created to the actual garments. I chose a black jumpsuit (which had to be significantly modified), black carpenter kneepads, a helmet with face cage which I covered in black stretch fabric, large headphones, and gloves to act as the base of the costume.
- Put your base garments on a dressform or an assistant and mark out a second rough draft of where the wires will go. After doing this to each piece of the costume, you will know the length of EL wire you need. Order the EL wire.

Step 3



- After you mock-up the wire configuration with rope, use chalk to outline the traces.
- Once your EL wire arrives, put the base layer back on the form and begin laying on the EL wire and taping it in place. This allows you plenty of wiggle room to change your layout or tweak the design.
- Once you are pleased with the way it looks, sew it down.

Step 4



- You can use a variety of methods to secure the EL wire to the different elements of the costume.
- For the main body (jumpsuit and gloves), hand sew the wire (it's way too thick to go under a machine!) using a whipstitch with quadrupled thread (meaning it ran through the eye of the needle four times instead of just one) in a light color so that the weight of the thread won't interfere with the line when the wire is lit.
- It's essential when doing a project as large as this to knot off the thread every few inches. The reason for this is that if one area breaks or snags, you don't want it to affect the rest of the costume, since it's all one piece of wire.

Step 5



- Black out certain areas of the wire with matte black tape, per your design (That provides less interference than running the wire inside the costume.)
- Make your suit as user-friendly as possible. The helmet should be set up to have its own battery pack. Lay the gloves out so that the wires run off the edge of the gloves and join to connector wires on the sleeves. Secure the battery packs to the back of the suit by cutting slits in the fabric and hooking the clips of the battery packs into the slits.

Step 6



- The only thing left is to connect all the wires, turn it on, and hope it works! Oh yeah, and dance.

